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RECENT ARCHAEOLOGICAL DISCOVERIES IN EAST KALIMANTAN, INDONESIA

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ABSTRACT

Since 1992, thanks to the exceptional interest generated by caving teams crossing Kalimantan from west to east in 1988, a large quantity of archaeological discoveries has been revealed. A Franco-Indonesian team has surveyed caves and rockshelters in East Kalimantan to shed some light on an archaeologically unknown territory. Altogether, more than 100 caves have been visited and checked, of which over 30 contain undoubtable rock paintings. These sites are located in two main karstic areas located north of Sangkulirang and northwest of Sangatta, inland from the Mangkalihat Peninsula of Kalimantan Timur.

THE CAVES, AND MESOLITHIC BURIALS

The two East Kalimantan survey areas cover 40 by 20 km and appear to be rich and geologically suitable for finding archaeological remains of all kinds. Uplifted during the Miocene some 60 million years ago, three geomorphological networks of cavities and galleries have developed within this large karstic area (Fig. 1). They have been occupied and used for various purposes over time. At a broad level of observation (see Chazine 2003, 2005a, 2005b for more precise descriptions), the lower caves have been used as dwelling places at least since the end of the Pleistocene, around 10,000 years ago. They contain typical occupation indicators like food remains (bones and shells), stone tools and débitage, charcoal and fireplaces. Pottery is often present on the surface and in the upper levels. Within many of the adjacent niches, funerary ceramics associated with human bones occur with other late "Dayak" personal items and wooden coffins.

A higher level network of caves and rockshelters is located between 100 to 200 m above the general ground level. Although some were occasionally used for dwellings, most were devoted to funerary practices. Earthenware funerary vessels with different styles of decoration were frequently observed in these during the 2002 and 2003 field sessions (Commission des Fouilles du MAE, 2001 to 2004).

During the 2004 field session, while excavating in Room 3 of the Keboboh cave complex, Jatmiko and Udin (2004) unearthed two flexed and primary burials (Fig. 2), a posture characteristic of a pre-Austronesian inhumation

process. This kind of burial is considered as a typical 'Mesolithic' feature in Java (Simantjatak *et al.* 2002). These two intact burials are the first ever found in this part of Borneo. They present characteristics very different from funerary assemblages related to the recent Austronesian communities, who usually put bones secondarily inside jars or wooden coffins.

The complete extraction of the two skeletons was undertaken in 2006. The first was found inside the entrance porch and appears to be a very young incomplete individual. The jaw was missing, although some teeth were found in front of the skull. The second burial contained chert cores, worked flakes and a relatively high number of snail shells. The latter are scattered upon, around and even under the skeleton, that was lying directly on bedrock at 30 cm. In both cases, the bones were highly decayed and needed superficial hardening treatment.

As no artifacts or charcoal were associated with these burials, no direct dating has yet been possible. Nevertheless, considering the importance of these perhaps pre-Austronesian skeletons, an aDNA analysis is to be conducted under Prof. Crubezy's direction at Université Paul Sabatier, Toulouse. If successful, some of the bones will be submitted for radiocarbon dating.

The third level of cavities, located up to 300 m high, has not yet provided any occupation remains. Some of these caves are characterised by a specific kind of rock art (Chazine 2005b, 2007), which may mean that they had very specific functions, to be discussed later in this paper.

POTTERY AND YOUNGER BURIALS

Since the start of our cooperative Franco-Indonesian program in 2003, several kinds of earthenware have been found on the surface and in stratified layers in the caves. Decoration includes incised, circle and dentate/punctate stamped motifs, of which a broad selection can be seen in Figures 3 and 4. Gua Tangkorak has also produced part of an animal figurine attachment similar to one from Lubang Angin in Sarawak (Datan 1993) (Fig. 4, right).

Another zoomorphic figurine was found during our 2005 field-session in a tiny and remote cave named Gua Unak. It has large horizontal ear-like protuberances and side wings or stumps (Fig. 5). Perhaps it was part of a handle for a funerary jar. From an adjacent niche called Liang Kairim comes the neck of a very large jar around 1 meter high and 50 cm in lip diameter (shown upside down in Fig. 6, base). It has unusual incised motifs infilled with

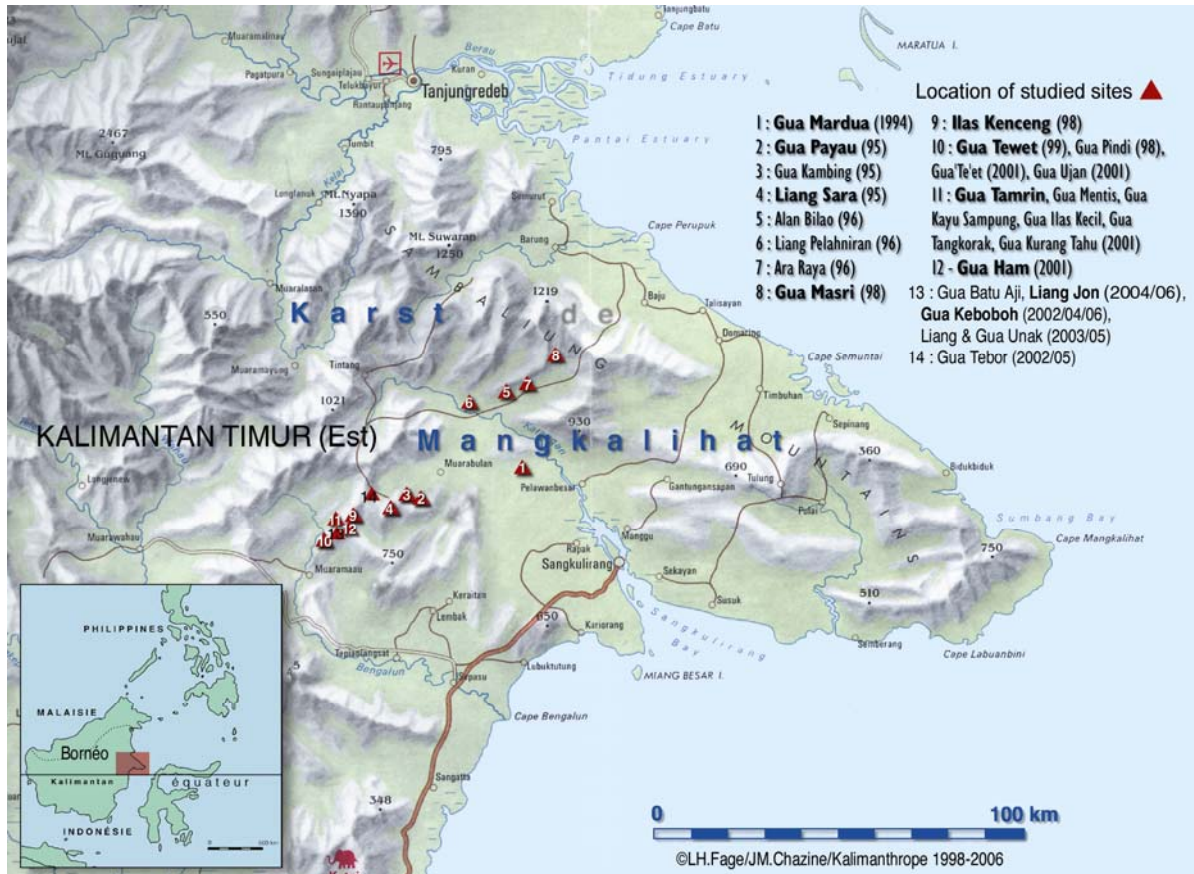
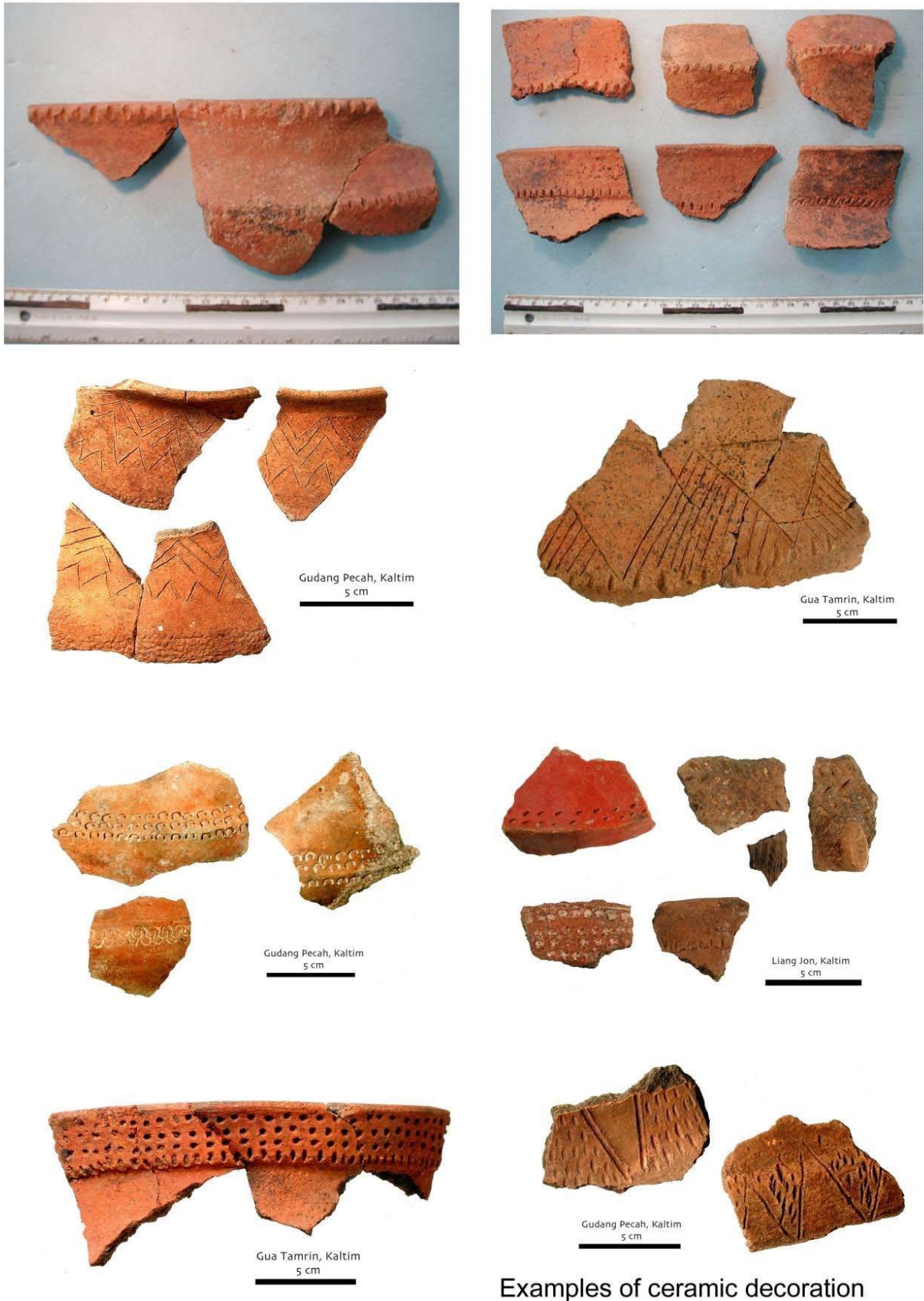


Figure 1. Locations of sites mentioned in text.



Figure 2. Excavated preceramic burials – Keboboh Room 3.



Examples of ceramic decoration

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Figure 3. Incised and stamped sherds from sites discussed in the text.

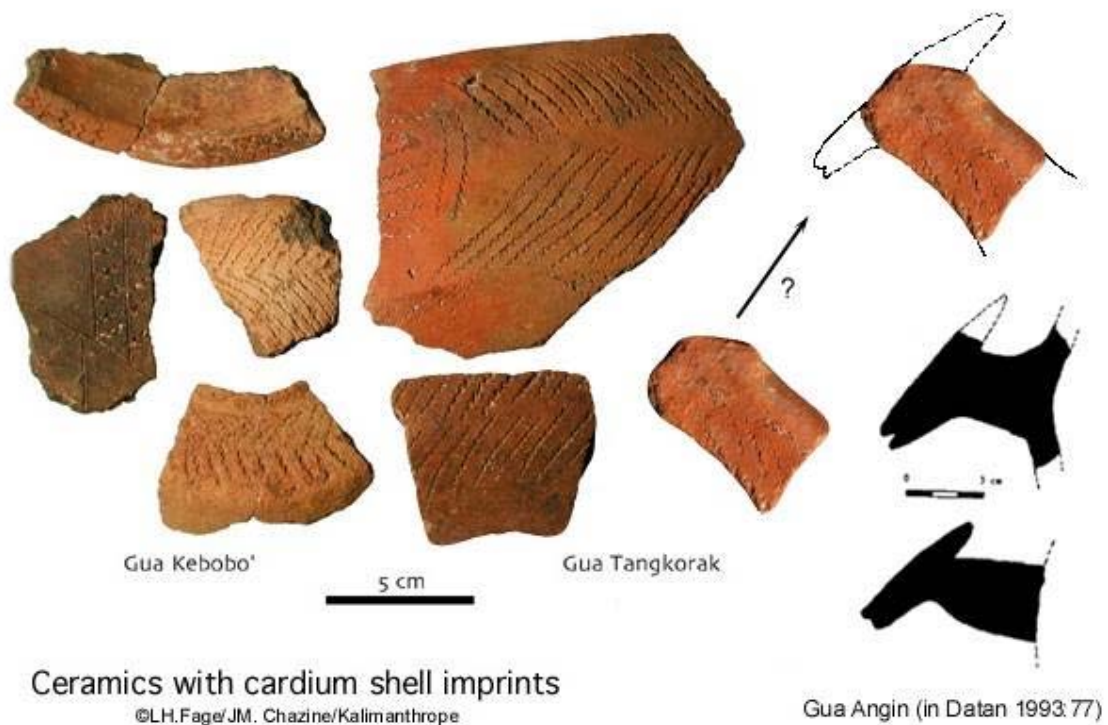


Figure 4. Sherds stamped with the edge of a bivalve shell, and an animal headed appendage from Gua Tangkorak.



Figure 5. Pottery from Gua Unak..

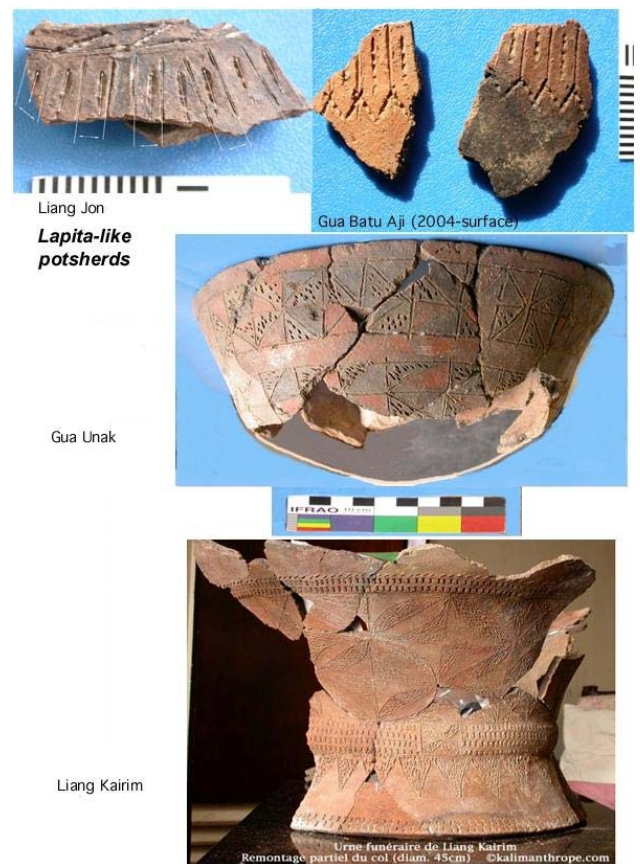


Figure 6. Incised and stamped pottery (see text).



Figure 8. Excavations at Liang Jon.



Liang Jon
Excavations

Fire structure
upon stone
replacing the head
of the burial



Figure 8. The Liang Jon burial.

punctuation and resembles a characteristic late Lapita stylistic expression (Spriggs 1990).

There are also two 'Lapita-like' dentate stamped sherds from Gua Batu-Aji (Fig. 6, upper right), unfortunately surface finds and not dated. During the 2005 Liang Jon excavations, a rock shelter located 2 kms north of Gua Batu Aji, another sherd of this type was found stratified within an occupational layer (Fig. 6, upper left). According to Roger Green (pers. comm. Aug. 2005), the stamping resembles late Lapita examples, around 2800 BP.

The 2005 excavations in Liang Jon, organised after previous research in 2003 and their promising results, were centred mainly on two 1.5 m x 1.5 m test pits (Fig. 7). One (Test Pit A) was dug to a depth of 3 m, still producing artifacts without reaching bedrock, while the second (Test Pit B) was stopped at 60 cm after a complete extended burial was hit (Fig. 8). Both excavations produced stone tools, animal bones, and marine and riverine shells. Large pieces of ochre with mortars and pestles appeared in separate occupation layers, and some human bones were coated with ochre. Some of the ochre seems to extend into the lower and possibly Pleistocene layers.

The skeleton had no skull. Instead, a large pebble had taken its place, the upper part of which appeared within and beneath a circle of stones containing charcoal. However, some skull bones belonging to 2 or 3 individuals appeared approximately 60 cm away, just at the foot of the cliff. Preliminary observation of the cervical vertebra and *foramen magnum* holes did not reveal forced removal.

Unveiled during the excavation process, a line of three stones above the burial can be interpreted as burial markers. The position of the feet as well as the positions of the arms and hands indicate that the body had been wrapped in a mat or tied with rope, bark or barkcloth strips, before being placed in the shallow burial pit.

This situation has a striking similarity with the recent discoveries made at Teouma in Vanuatu (Bedford *et al.* 2006), where burials were unearthed associated with ceramics belonging to the Lapita period. The Teouma skeletons had also undergone post-mortem skull removal.

Other important findings from the 2005 excavations in Gua Tebok and Liang Jon are the numerous artefacts related to ochre usage, excavated between the upper levels and the lowest ones at 2.5 m depth. They comprise ochre lumps up to 15 cm in diameter, worn pencil-like pieces, and flat to curved anvils/mortars with ochre residues on their surfaces. Most of the anvils are made of calcitic sandstone, whose source can be precisely located on the opposite side of Gunung Marang, 6 km (or a minimum two-day walk through the steep conical karsts) to the east. Gua Tebok also has ochre hand stencils on its walls. Since ochre is present in this site in all layers, from the bedrock upwards, there must have been continuous use of it during a long time period.

From excavated layers unveiled both in Gua Tebok and Liang Jon, no significant changes can be observed in lithic technology throughout both sequences. From the surface to 50 to 60 cm depth, pottery of the 'Austronesian' techno-cultural phase occurs with a medium to small sized flake industry. Only one fragment of the cutting

edge of a polished adze has been found in the upper layers during three field sessions. This suggests that the introduction and adoption of new techno-cultural practices, especially polished stone tools, supposedly introduced by Austronesians, did not spread regularly inside all areas of Borneo. The stone tool assemblages consist mostly of flakes, whose statistical distributions appear to vary slightly. A type of flake characterised by the double bulb Kombewa processing technology (Reduron *et al.* 1995:71-3.) is present at rates as high as 25% in some layers (Fig. 9). We term these *Kutai flakes*, after the local province of Kalimantan Timur.

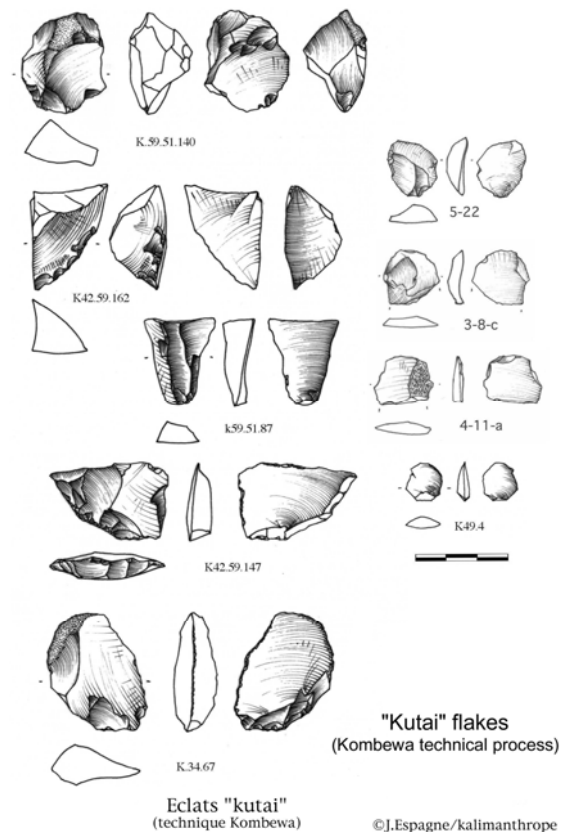


Figure 9. Stone flakes, some bipolar, from Gua Tebok and Liang Jon.

Animal Bones

During the 2005 field session at Gua Tebok, Liang Unak and Liang Jon, over 30 kg of animal bones were recovered. Most of the bones are highly fragmented, and a large proportion are burnt. Within the identified taxa, suidae, followed by turtles (mostly shell parts) then cervidae, constitute the main core. Some bones of primates and carnivores have also been identified in lesser proportions. In test pit B at Liang Jon, levels 14, 15 and 16 (2.2 to 2.8 m depths) differ from others in their higher proportions of cervidae, perhaps indicating an important change in diet. These preliminary observations need to be confirmed later with more precise observations.

In Liang Jon, 36% of the identified remains and 68% of the unidentified were burnt. These proportions are respectively 36% and 73% in Gua Tebok. Since animals

constituted an important diet resource, they also provided important raw materials like long bones and deer antlers, as well as skin and tendons. Gua Tebok and Liang Jon have both yielded bone points, the ends being often slightly burnt. A more detailed analysis is necessary to establish the taphonomic history of each assemblage and to specify the acquisition and exploitation processes for each species. The data will be correlated with those from other disciplines, in order to describe the past way of life of the communities who previously settled in this region.

Rock Art

The oldest rock paintings found in the caves have been dated indirectly from before the end of Pleistocene (Causse *et al.* 2003), and the practice of cave painting continued probably until the arrival and dispersal of Austronesians some 3500 years ago. The younger rock art is mostly charcoal drawings.

The uniqueness of the rock art is expressed in a rather high number of hand stencils (Chazine 2005a, 2005b). If an interpretation of the function(s) of these negative hands be permitted, the trend is towards healing practices. We believe it will be possible to separate gender using Manning's ratio (Manning 2002; see also Sharpe and van Gelder 2004 on Rouffignac). Chazine and Noury (2006a, 2006b) discuss these issues further.

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